

**Abstract**

The invention is directed to a method for signal processing in a rake receiver for spread spectrum signals and is directed to a rake receiver for spread spectrum signals comprising a plurality of rake fingers (9, 10, 11) each rake finger being adapted to receive a signal (7, 8) being part of a multipath signal (2) and associated with a path of the multipath, said signal (7, 8) having a delay ( $\tau$ ) relative to an other signal associated with an other path of the multipath (7, 8), said receiver comprises a summation unit (37) for generating an output signal from the signals received from of at least some of the rake fingers (9, 10, 11), said output signal being a summation signal having an improved signal to noise ratio (SNR) if compared with the signal to noise ratio (SNR) of at least one of the rake fingers (9, 10, 11), a timing error detector (12) for detecting a delay ( $\tau$ ) between signals of at least two rake fingers (9, 10, 11) and for generating a timing error signal which is sent to a unit (6) for compensating the error of the respective delay ( $\tau$ ); to provide a code-tracking unit for a direct-sequence code division multiple access (DS-CDMA) receiver having an improved tracking performance, especially in cases where delay times of multipath signals are in the order of the chip duration said timing error detector (12) generates a timing error signal ( $x$ , 13) based on the signals (7, 8) associated with paths of the multipath of more than one rake finger (9, 10, 11).